



**Grand Forks International Airport**



# Web-based Condition Reporting System



# Airport Information

- Northwest Airlines (DC9's)
- Northwest Airlinks (Mesaba SAAB 340 and Pinnacle CRJ)
- Federal Express (727's and C208's)



# Airport Information

- ATCT during air carrier ops
- Operations staff – 12
- Maintenance staff – 3
- Two air carrier runways – one GA
  - 7349 x150
  - 4206 x100    3900 x75



# Evolution

- Fax-based system
- Web-based system



# Fax-based System

- Slow
- Backup System



# Web-based system

- Goals
  - Simplify (Data entry – end user)
  - Timely
  - Paper-less backup



# Web-based system

- Simplify
  - MS Access database
  - Defined data fields or free form
  - Straight-forward end user form
  - Printable (single page) by end user



# Grand Forks International Airport



Microsoft Access

File Edit View Insert Tools Window Help

Type a question for help

Airfield IT : Database (Access 2000 file format)

Open Design View X

Objects

- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules
- Groups
- Favorites

Create form in Design view

Create form by using wizard

Surface Condition

Grand Forks International Airport

REPORT

0.18 Reported By Wayne Wetzel

Meter Type Vericom

	Plowed/Swept/CLOSED	Deiced or Sanded	Coverage	Depth	Contaminant
					Good

Taxiway North South

6/21/2007	0.18	W/A	A	>40	>40						
			West		East						
6/21/2007	0.18	W/A	B	>40	>40						
6/21/2007	0.18	W/A	C								Good

Apron

6/21/2007	0.18	W/A	Terminal								Good
6/21/2007	0.18	W/A	Cargo								Good
6/21/2007	0.18	W/A	A								Good
6/21/2007	0.18	W/A	B								Good
6/21/2007	0.18	W/A	C								Good

Update Web Site

Full Report Copy to New Record Exit

Record: 1366 of 1366

NUM

Ready

start

Inbox - Microsoft Out...

Microsoft PowerPoint ...

Airfield IT : Database...

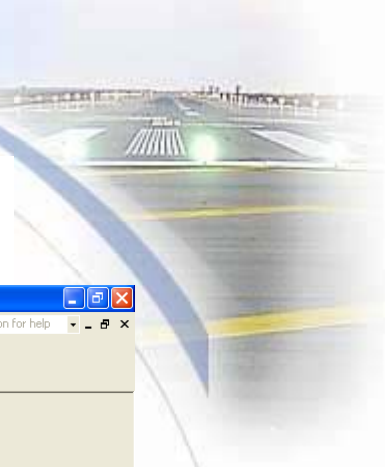
Surface Condition

11:11 AM





# Grand Forks International Airport



Microsoft Access - [Surface Condition]

File Edit View Insert Format Records Tools Window Help

Type a question for help

MS Sans Serif 8 B I U

## Grand Forks International Airport SURFACE CONDITION REPORT

ID: 1336 Weather Reading Date: 8/21/2007 Time: 0:18 Reported By: Wayne Wetzel

Temperature: Precipitation: Wind: Meter Type: Vericom

Date	Time	Initials	Runway	MU			Plowed/Swept/CLOSED	Deiced or Sanded	Coverage	Depth	Contaminant
				Touchdown	Midpoint	Rollout					
8/21/2007	0:18	WV	36L	>40	>40	>40					
8/21/2007	0:18	WV	26	>40	>40	>40					
8/21/2007	0:18	WV	36R								Good
Taxiway											
8/21/2007	0:18	WV	A	North	>40	>40					
				South							
8/21/2007	0:18	WV	B	West	>40	>40					
				East							
8/21/2007	0:18	WV	C								Good
Apron											
8/21/2007	0:18	WV	Terminal								Good
8/21/2007	0:18	WV	Cargo								Good
8/21/2007	0:18	WV	A								Good
8/21/2007	0:18	WV	B								Good
8/21/2007	0:18	WV	C								Good

Update Web Site

Full Report Copy to New Record Exit

Record: 14 of 1366

Form View NUM

start Inbox - Microsoft Out... Microsoft PowerPoint... Airfield IT : Database... Surface Condition 11:09 AM

# Grand Forks International Airport



Microsoft Access

File Edit View Insert Format Records Tools Window Help

Type a question for help

Airfield IT : Database (Access 2000 file format)

Open Design New X

Objects

- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules

Groups

Favorites

### Surface Condition

#### Grand Forks International Airport

#### SURFACE CONDITION REPORT

ID: 1363 Weather Reading Date: 8/21/2007 Time: 0:18 Reported By: Wayne Wetzel

Temperature: Precipitation: Wind: Meter Type: Veicom

Date	Time	Initials	Runway	MU			Plowed/Swept/CLOSED	Deiced or Sanded	Coverage	Depth	Contaminant
				Touchdown	Midpoint	Rollout					
8/21/2007	0:18	WVA	35L	>40	>40	>40					
8/21/2007	0:18	WVA	26	>40	>40	>40					
8/21/2007	0:18	WVA	35R								
				Taxiway		North	South				
8/21/2007	0:18	WVA	A	>40	>40						
						West	East				
8/21/2007	0:18	WVA	B	>40	>40						
8/21/2007	0:18	WVA	C								Good
				Apron							
8/21/2007	0:18	WVA	Terminal								Good
8/21/2007	0:18	WVA	Cargo								Good
8/21/2007	0:18	WVA	A								Good
8/21/2007	0:18	WVA	B								Good
8/21/2007	0:18	WVA	C								Good

Update Web Site

Full Report Copy to New Record Exit

Record: 1366 of 1366

Enter P, S or leave blank

NUM

start

Inbox - Microsoft Out...

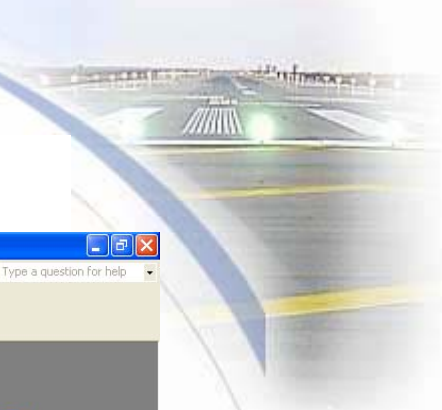
Microsoft PowerPoint ...

Airfield IT : Database...

Surface Condition

11:13 AM

# **Grand Forks International Airport**



Microsoft Access

File Edit View Insert Format Records Tools Window Help

Type a question for help

MS Sans Serif 8 B I U

Airfield IT : Database (Access 2000 file format)

Open Design New

Objects

- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules
- Groups
- Favorites

**Surface Condition**

*Grand Forks International Airport*  
**SURFACE CONDITION REPORT**

ID: 1383 Weather Reading Date: 8/21/2007 Time: 0:18 Reported By: Wayne Wetzel

Temperature: Precipitation: Wind: Meter Type: Vericom

Date	Time	Initials	Runway	MU			Plowed/Swept/CLOSED	Deiced or Sanded	Coverage	Depth	Contaminant
				Touchdown	Midpoint	Rollout					
8/21/2007	0:18	WV	35L	>40	>40	>40					
8/21/2007	0:18	WV	26	>40	>40	>40					
8/21/2007	0:18	WV	35R								Good
			Taxiway		North South						
8/21/2007	0:18	WV	A	>40	>40						
			West East								
8/21/2007	0:18	WV	B	>40	>40						
8/21/2007	0:18	WV	C								Good
			Apron								
8/21/2007	0:18	WV	Terminal								Good
8/21/2007	0:18	WV	Cargo								Good
8/21/2007	0:18	WV	A								Good
8/21/2007	0:18	WV	B								Good
8/21/2007	0:18	WV	C								Good

Update Web Site

Full Report Copy to New Record Exit

Record: 1366 of 1366

Enter P, S or leave blank

start

Inbox - Microsoft Out... Microsoft PowerPoint ... Airfield IT : Database... Surface Condition

NUM 1:52 PM



# Web-based system

- Paper-less backup
  - MS Access auto-save
  - Server based database
  - Data Query Retrieval / Print

## Grand Forks International Airport

### SURFACE CONDITION REPORT

ID  Weather Reading Date:  Time:  Reported By:   
Temperature:  Precipitation:  Wind:  Meter Type:

			MU			Plowed/Swept/CLOSED	Deiced or Sanded	Coverage	Depth	Contaminant	
Date	Time	Initials	Runway	Touchdown	Midpoint	Rollout					
<input type="text"/>	<input type="text"/>	<input type="text"/>	35L	>40	>40	>40	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	26	>40	>40	>40	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	35R	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
			Taxiway	North	South						
<input type="text"/>	<input type="text"/>	<input type="text"/>	A	>40	>40	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	B	>40	>40	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	C	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Good
			Apron								
<input type="text"/>	<input type="text"/>	<input type="text"/>	Terminal	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Patchy	Thin	Packed Snow	Good
<input type="text"/>	<input type="text"/>	<input type="text"/>	Cargo	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Patchy	Thin	Packed Snow	Good
<input type="text"/>	<input type="text"/>	<input type="text"/>	A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Patchy	Thin	Packed Snow	Good
<input type="text"/>	<input type="text"/>	<input type="text"/>	B	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Patchy	Thin	Packed Snow	Good
<input type="text"/>	<input type="text"/>	<input type="text"/>	C	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Patchy	Thin	Packed Snow	Good

[Update Web Site](#)[Full Report](#)[Copy to New Record](#)[Exit](#)



# Grand Forks International Airport



Windows Internet Explorer window showing the Grand Forks International Airport Conditions page.

Address bar: [http://www.gfkairport.com/html/02\\_airfield1.html](http://www.gfkairport.com/html/02_airfield1.html)

Page Title: Grand Forks International Airport Conditions

Sequence Number: 1387  
Friction Meter: Vericom

Date	Local Time	By	Surface	Mu TD	Mu MID	Mu RO	Plowed or Swept	Deiced or Sanded	Coverage	Depth	Contaminant	Braking Action
9/3/2007	06:50	PL	35L									
9/3/2007	06:50	PL	26									
9/3/2007	06:50	PL	35R									Good
			Taxiway	North	South							
9/3/2007	06:50	PL	A									
				West	East							
9/3/2007	06:50	PL	B									
9/3/2007	06:50	PL	C									Good
			Apron									
9/3/2007	06:50	PL	Terminal									Good
9/3/2007	06:50	PL	Cargo									Good
9/3/2007	06:50	PL	A									Good
9/3/2007	06:50	PL	B									Good
9/3/2007	06:50	PL	C									Good

Windows taskbar shows: start, Internet Explorer, Outlook, Presentation, CRD Presentation, ID - Windows Intern..., 11:04 AM





# Web-based system

- Timely dissemination

[http://www.gfkairport.com/html/02\\_airfield1.html](http://www.gfkairport.com/html/02_airfield1.html)



# Web-based system

- Future
  - Vehicle wireless laptop
  - Web-based NOTAM system?





Grand Forks International Airport



# Web-based system

Richard G. Audette

Operations & Maintenance Manager

(701)795-6978

[raudette@gfkairport.com](mailto:raudette@gfkairport.com)

# TOLEDO EXPRESS AIRPORT

*Web-Based NOTAM  
Reporting  
and  
Self-Inspection Checklist*



# GENERAL AIRPORT INFO.

- 5 Commercial Airlines

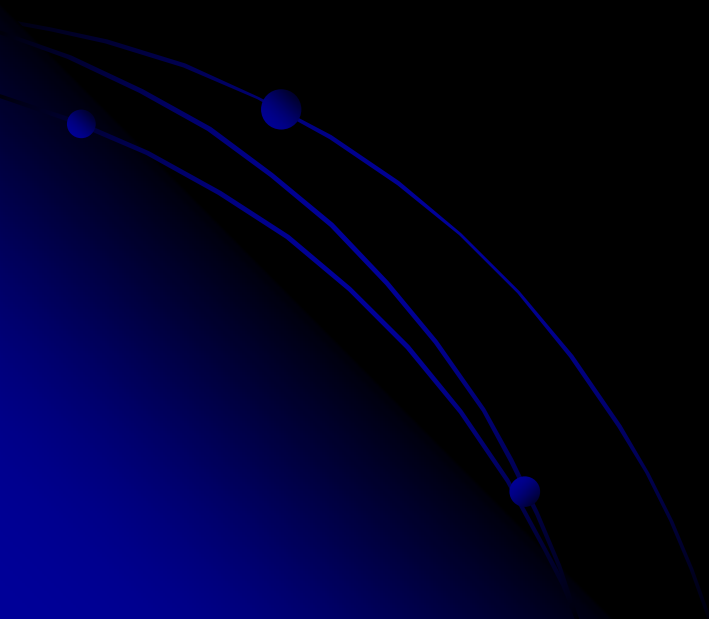
- Allegiant
- Northwest/Mesaba
- American Eagle
- Delta Connection
- Continental Connection

- 24/7 ATCT

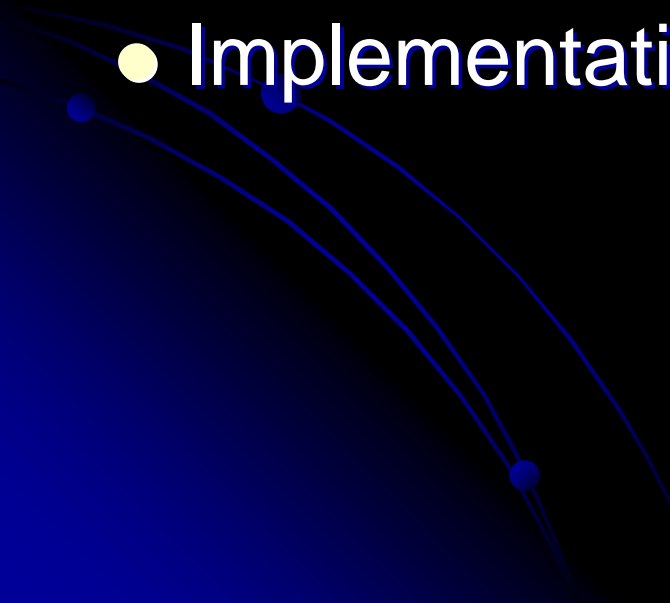
- Commercial service, Cargo, and Military Operations

# SNOW REMOVAL STAFFING

- Staffing for Field Condition Reporting
  - Director of Operations
  - Operations Manager
  - Maintenance Manager



# CREATING SYSTEM

- Researched airports in the region
  - Brainstormed within our organization
  - Vision for the future
  - DRACONI AIRS
  - Implementation
- 

# TRANSMISSION of SNOTAM/FIELD REPORTS

- Previously

- Manger on duty compiled field info.
- Contacted ATCT
- Office to type out NOTAM
- Faxed NOTAM to PSO
- PSO called Flight Service
- PSO faxed NOTAM to tenants
- PSO logged NOTAM

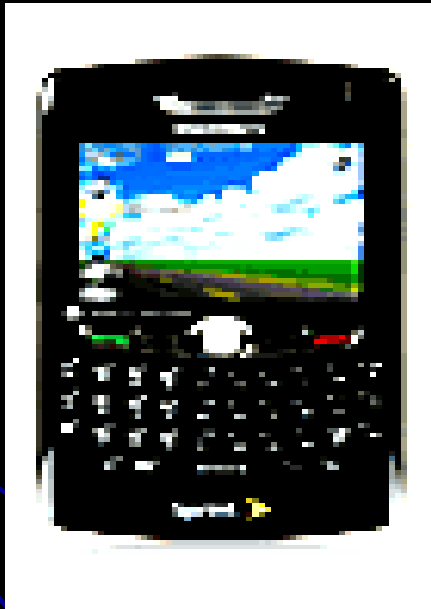
# CONT...

- Currently

- Manager on duty completes field check
- Contacts ATCT
- Creates NOTAM/SNOTAM on phone
- NOTAM/SNOTAM appears on web page
- Flight Services called and documented

# TRANSMITTING METHOD

Blackberry and Smart phone





# SYSTEM DEVELOPMENT

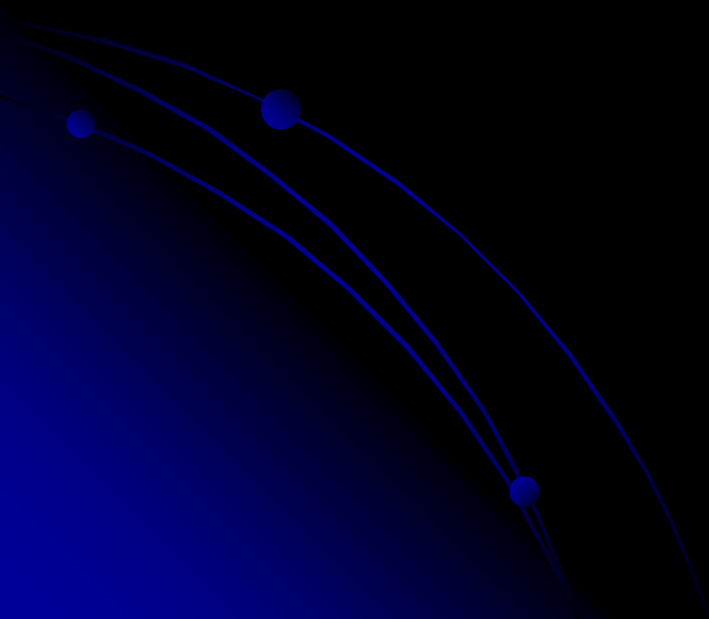
- DRACONI AIRS

- Local company

- Pricing

- Ranging from 10-20K plus cost of equipment

- Varies depending upon equip. already in place



# FEEDBACK

- Air Carriers

- Subtle at first
- Implemented monitors/hard-drives in OPS office

- FAA

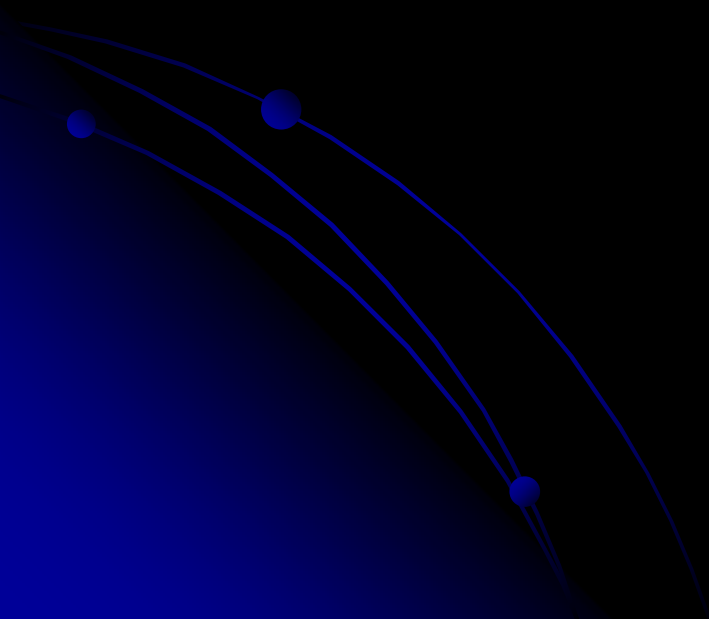
- Very Impressed
- Easy to read

- Tenants

- Happy with quick information dissemination

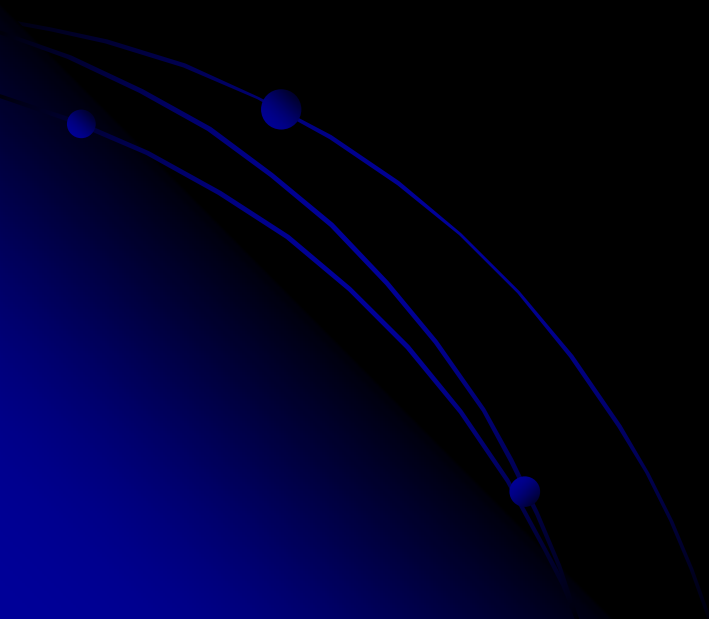
# SYSTEM ACCESS

- Administration Access
  - Only MGMT. has password and access rights
  - Every function can be limited per employee
  - Password protected



# SYSTEM BACK-UP

- Dual system server
  - All data written to Server “A” copied to Server “B”
  - Network backed-up daily to CD



# BATCH PRINTING

- Eliminates the paper trail
- Automatically maintains NOTAM log
- Sequential numbering 1-100 etc...
- Choose dates to batch print
  - Ex. Oct 10<sup>th</sup> 2007 – Oct 10<sup>th</sup> 2008

# KNOWN ISSUES WITH OUR PAST NOTAM PROCESS

<b>NOTAM</b>	NO:	Date:		
	Type:	Hours:	Eastern Time	
Toledo Express Airport, Toledo Ohio [KTOL]				
The Following Surface Conditions Are In Effect Until Further Notice				
<b>RUNWAY 7-25</b>				
CONDITION				
MU Reading				
<b>RUNWAY 16-34</b>				
CONDITION				
MU Reading				
<b>TAXIWAYS</b>				
A				
B				
D				
N				
Commercial Ramp				
GA West Ramp				
BAX Ramp				
Additional Info				
SURFACE CONDITIONS CHECKED WITH NO CHANGE				
Time:				
Employee:				
Faxed Time:				
(419) 865-2352 Fax (419)-865-1903		Signed: _____		
Authorized Port Authority Employee				

- Must be hand written & filled out.
- Must be faxed to multiple recipients.
- Lost often, problems with faxing / receiving.
- Difficult to keep records, history, and archive.
- Time consuming to update and manage.
- Delayed updates of crucial information.

# WEB-BASED SYSTEM

- Preview

